Amendments to the Specification

Please replace the paragraph that extends from page 10, line 1, through page 11, line 2, with the following amended paragraph:

In general, decoding module 16 includes a pre-processing stage 40, an alignment stage 42, a geometric correction stage 44, an optional probabilistic analysis stage 46, a graphic demodulation stage 48, and a code word decoding stage 50. Decoding module 16 may be implemented as one or more program modules that are executable on a computer or other programmable processor. During the pre-processing stage 40, a scanned graphical bar code image 52 may be located in scanned image 36, and non-bar code regions may be cropped and trimmed from the scanned (or input) image 36. See U.S. Patent Application No. 09/877,581, filed on June 7, 2001, by Jonathan Yen et al., and entitled "Automatically Extracting Graphical Bar Codes." During the alignment stage 42, fiducial marks are detected in scanned bar code image 52. The configuration of the detected fiducial marks indicates the type of global deformations that might have been introduced into the graphical bar code during transmission of graphical bar code 10 through document handling channel 14. These global deformations (e.g., translational, rotational, affine and skew distortions) may be corrected during the geometric correction stage 44 as described in U.S. Patent Application No. 09/578,843, filed May 25, 2000, by Doron Shaked et al., and entitled "Geometric Deformation Correction Method and System for Dot Pattern Images." During the probabilistic analysis stage 46, in one embodiment, probability models are applied to pixel value measurements ~~obtained from the aligned and geometrically corrected scanned bar code image 54~~ to produce a set of probability parameters 56. The probability parameters 56 may be used during the graphic demodulation stage 48 to select the most likely sequence of graphical code words that corresponds to the graphical code word sequence that originally was encoded into original image 26. See U.S. Serial No. 09/877,516, filed on June 7, 2001, by Doron Shaked et al., and entitled "Generating and Decoding Graphical Bar Codes." The selected graphical code word sequence is translated into an encoded message 58 that is decoded into a decoded message 60 by the code word decoding stage 50. As explained in detail below, in some embodiments, decoding module 16 may be configured to decode scanned graphical bar code 36 automatically without foreknowledge of the original, unmodulated image 26, but rather based upon a derived base image 62.

Please replace the paragraph that extends from page 16, line 23, through page 17, line 14, with the following amended paragraph:

Referring to FIGS. 5A and 5B, in one embodiment, a scanned version 36 of graphical bar code 10 may be decoded as follows. Initially, a base image 62 is generated at a base image generation stage 130. The base image 62 may be derived from the original image 26 if it is available (see the subsection entitled "Guided Decoding"), or the base image 62 may be derived from the scanned graphical bar code 36 (see the subsection entitled "Blind Decoding"). Next, a list 132 of fictitious code word blocks is generated. As explained in detail below, fictitious code word blocks may be identified from the original image 26 (if it is available), or they may be identified based upon the average gray scale values of the scanned bar code image blocks. The derived base image 62 and the list 132 of fictitious code word blocks are passed to the graphic demodulation stage 48. At the graphic demodulation stage 48, the inverted graphical operation described above is used to demodulate regions of the graphical bar code based on corresponding regions of the derived base image 62 [[are]] and thereby recover the graphical code words embedded in the graphical bar code. The recovered graphical code words are compared probabilistically to each graphical code word in the set of possible graphical code words to obtain a sequence of graphical code words corresponding to a graphical encoding of the message encoded in the original image; during this process regions corresponding to fictitious code words are ignored and not processed. Additional details regarding the probabilistic methodology for decoding code word blocks may be obtained from U.S. Patent Application No. 09/877,516, filed on June 7, 2001, by Doron Shaked et al., and entitled "Generating and Decoding Graphical Bar Codes." The resulting sequence 58 of graphical code words may be decoded by code word decoding module 50 to produce decoded message 60 (see FIG. 1).